

**Heavenly Mountain Resort
Summer Epic Discovery
Project Description
Revised November 13, 2013**

Introduction

As provided for in the Ski Area Recreational Opportunity Enhancement Act of 2011, Heavenly Mountain Resort proposes to improve year-round recreation opportunities within the developed portions of the ski area on National Forest System lands using existing facilities and infrastructure to meet the expanding needs and expectations of visitors to Lake Tahoe, better support the year-round local economy in South Lake Tahoe area, connect a diverse group of visitors to our national forest with recreation and educational opportunities to further inspire passion and excitement for the outdoors. The activities are designed to suit a wide range of visitors from the casual sightseer to the avid mountain adventurer. A key component of our project proposal is a unique and comprehensive environmental education and interpretive component that is woven into the entire experience.

The proposal is consistent with both the existing and proposed LTBMU Forest Plan and with the TRPA Regional Plan. This proposal is also consistent with the proposed update to the Heavenly Forest Service Master Development Plan Amendment Update (MDP), which organizes areas of the mountain with similar recreational and operational attributes into zones, while taking into consideration the areas potential for meeting future needs of the resort. The following proposed projects will help fulfill our shared objective of making Heavenly a more diverse and encompassing year-round facility capable of meeting the seasonal needs of our guests.

Located at the top of the Heavenly Gondola, Adventure Peak opened in the 2000/01 ski season and is the focus of Heavenly's non-skiing and family-oriented activities. It was created specifically as part of implementing the 1996 Master Plan for families, children and non-skiers who otherwise lacked options for activities during the day and after they finished skiing/riding for the day. Since that time, we have discovered that visitors to Lake Tahoe increasingly seek fun, adventurous outdoor activities in a readily accessible environment. This extends to the winter, summer and shoulder seasons. Today, Adventure Peak represents an important component of the recreational activities at Heavenly, and provides visitors with a unique opportunity to access and explore the National Forest System lands of the Lake Tahoe Basin.

Adventure Peak will continue to serve as the primary access portal and hub for most of the activities. This proposal will extend activities beyond Adventure Peak to provide natural resource-based recreation in the East Peak Lake Basin to the east and the Sky Meadows Basin to the west. All three activity centers will be linked by a combination of

ski lifts, hiking trails, zip line or similar conveyances, and summer roads for the visitors' enjoyment and convenience.

A basic premise of the following projects is that they have a low environmental impact in terms of both construction and operation. Heavenly is a logical location to expand beyond our current offering of non-skiing based activities as infrastructure and guest service facilities are already in place. Further, the proposed activities rely on the natural alpine environment and cannot be provided as successfully elsewhere. ***Please note that some of the proposed projects are still undergoing site-specific design. Final specifications on layouts, lengths, heights, materials and other design elements are forthcoming.*** In addition, as more specific designs are completed, detailed proposed site plans and specifications will be prepared and submitted.

Educational Opportunities and Interpretive Information

Heavenly proposes to build upon on the long-standing and successful partnership that it has with the LTBMU to educate our guests about the unique natural environment and the National Forest System lands. Therefore, we propose to integrate a more comprehensive interpretive program throughout our summer activities. Instead of using traditional interpretive centers, our program revolves around the concept of learning through play and utilizing the activity zones for interpretive interactions.

Environmental education and interpretive elements are integrated within each activity, at the activity waiting areas, along the trails and walkways between activities, and within the core buildings supporting the program. Our interpretive program will be further developed through coordination with the LTBMU and TRPA, and with The Nature Conservancy. We will also develop participatory programs that will focus on skills and knowledge that will help people further explore the outdoors on their own. Creative concepts will evolve over time in relation to activities, conditions and opportunities.

Activities and facilities are proposed in three general areas:

1. Top of Gondola/Adventure Peak

Mid-Station Zipline Canopy Tour

An interpretive zipline canopy tour will be implemented in the area between the gondola mid-station and the top station to the east of the gondola alignment. That area presently has no formal ski-related uses and is an excellent area for four-season recreation based on the location, terrain and partial lake views. The routing plan is one directional, starting near the top of the Gondola and finishing at the mid station deck.

Groups of participants will be led by trained guides in a pod-style of guiding. The participants will end their tour at the gondola mid-station by a short hiking

trail. From there, they will take the gondola to the top station to return their equipment. The total tour time is estimated to be two to three hours. The guides will provide interpretive information and training regarding proper ziplining techniques as they lead each group. The total length of the route will be approximately 4,000 linear feet.

The tour incorporates the use of ziplines and aerial walkway bridges that are generally sited away from existing infrastructure with external views to surrounding mountain peaks and Lake Tahoe as much as possible. Where a suitable tree is not available, individual steel or wooden columns may be installed to support a platform. The tour will incorporate ground hikes in order to gain elevation and expose participants to different interpretive and environmental education elements. It will offer the opportunity to experience interacting with the forest canopy community and other natural landscape elements including rock outcrops and other natural promontories.

Ziplines will include close canopy tree-to-tree traverses, and longer, open-air layouts that cross existing ravines, thereby capturing the sensation of high-speed flight and exposure. A short training zipline will be built near the start in order to properly train participants in the use of ziplines, hand braking and platform-to-platform movements.

Planned components include:

- 6-9 Ziplines
- 1-3 Sky bridges
- 8-12 landing and takeoff platforms in trees and attached to boulders
- 1-3 ground level launches
- Entry bridges and rappels as necessary
- Short elevation gain hikes as necessary
- Specific maintenance vehicle parking areas along the existing mid-station maintenance road

The physical impacts of this facility will be extremely low. No utilities or other infrastructure are necessary. Selective tree removal for the ziplines, bridges and view corridors will be necessary. Emergency access and egress can utilize the existing maintenance road and previously-approved hiking trails.

Sky Cycle Canopy Tour

An aerial activity known as the Sky Cycle Canopy Tour will be implemented in an area between the gondola top station and the gondola mid-station to the west of the gondola alignment. It will allow visitors the opportunity to traverse the area by pedaling individual bicycle-like devices that are suspended from a cable in the air. The tour will provide internal views of the area as well as

external views to the distant landscape including Lake Tahoe and the Desolation Wilderness Area.

The activity will include a low-level starting platform and enclosed equipment storage area located at the beginning of the tour. The platform and enclosed storage area will be approximately 2,500 square feet in area. It will be accessed by a short hiking trail to a loading deck that departs from the gondola top station or from Tamarack Lodge. From there, the activity will be entirely above the ground with a mid-way landing platform for scenic views and rest stop.

The route will take approximately 45-60 minutes to complete the tour. Visitors will ride approximately 2,000 linear feet in each direction along a nearly level profile once the initial elevation is gained climbing up from the starting platform. Trained Heavenly personnel will be at key locations on the ground along the route to ensure safety of the participants. A previously-approved hiking trail will be implemented underneath portions of the overhead alignment for Heavenly personnel to monitor the line.

The physical impacts of this facility will be extremely low. The steel cable and landing platforms will be fastened and guyed to trees along the route using non-invasive techniques. It will be guyed to the native soil in places where the soil conditions permit. Small diameter trees within the routing alignment will be selectively removed. No utilities are necessary.

Forest Flyer Alpine Coaster

The Forest Flyer Alpine Coaster is an activity that allows users on individual sleds to descend on a raised track through the forest and natural rock formations. The Forest Flyer relies on gravity for its descent, and on an integrated automated cable to tow riders and one- and two-person sleds up a track line to the top starting area.

The Forest Flyer is proposed to be located a short distance to the north and west of the existing tubing lift. The downhill segment of the track length will be approximately 2,800 feet in length as it descends approximately 300 vertical feet from start to finish.

The average height of the track will be 3-6 feet above natural grade in part to account for snow depths in the area. Sections of it will be a maximum of 15-20 feet above the ground. The track is comprised of three tubular rails. Wheels on individual sleds run on outer 4 inch diameter rails, brakes run on a middle 2.5 inch rail, and the inner 1.5 inch rail serves as a guide. The elevation of the track is dictated by features such as topography, vegetation, rock formations and the need to avoid other improvements or obstacles. The

track gauge offers stability throughout the descent, and derailment is not a concern as the sleds are securely fastened to the outer track.

The design and construction of the Forest Flyer incorporates low-impact design techniques and requires a cleared 20-25 foot wide corridor of vegetation removal for the installation and operation. Low shrubs and ground cover can remain within the corridor following construction. Foundations for start and finish areas are generally small in size, requiring minimal ground disturbance. Likewise, the elevated track between the start and finish area is anchored into the ground with soil nails and minimal footings, except when crossing an existing feature such as a ski run or maintenance road. No permanent road construction is necessary for installation or operation. A hiking trail will parallel the alignment in order to allow for inspection and emergency access and egress.

Individual sleds can accommodate one or two riders and are spaced at proper distances for safety. All sleds are equipped with safety belts for each rider. Riders remain in control of their velocity for the entire descent by applying pressure on a brake handle through straights and curves in the track. If the brake handle is released entirely, the sled will come to a stop.

Specific safety features include:

- brakes on the cable;
- spacing sensors at key locations along the track;
- one-way wheel bearings on each sled; and
- spring-loaded chocks that each sled passes over preventing roll-back in the event of cable failure.

The top speed of the sleds can be set with centrifugal brakes (up to approximately 25 mph). Each sled is equipped with safety belts, brake levers and energy absorbent front and rear bumpers.

The following support structures are required:

- a 600 square foot storage/ maintenance and attendant's building located at the bottom station;
- a 300 square foot bullwheel enclosure located at the bottom station;
- a 150 square foot bullwheel enclosure station located at the top station; and
- a 100 square foot attendant's booth located at the top station.

Electrical power and communications utilities are required at both stations. The bottom station is located adjacent to the tubing lift and summer maintenance road, where existing utilities can be accessed. They will be

attached to the underside of the uphill track line in order to reach the top station.

Infill Activities

A number of smaller individual activities will be sited in and around the existing and proposed activities that are intended to infill between the larger activities and create a critical mass of activities for visitors to enjoy between the larger and longer-duration activities. The intent is to create a complete experience that includes large and small activities. They will include activities such as interpretive trails, interactions with interpretive specialists, disc golf, a smaller-scaled zipline or ropes course, gem panning, and a mountain bike skills park.

2. East Peak Lake Basin

The following activities are proposed to be sited in the East Peak Basin area. The East Peak Basin is the general area between the top of Tamarack Express lift, the top of the Big Easy lift, East Peak Lodge and East Peak Lake. It lies almost entirely in Nevada outside of the Tahoe Region and is not subject to the jurisdiction of TRPA. Activities in the East Peak Basin will be accessed from the Tamarack Express lift, Big Easy lift, on foot or by riding on the Mountain Excursion Tour vehicles (described below). Visitors will return to Adventure Peak using the Mountain Excursion vehicles, on foot or by riding the existing lifts including downloading on Tamarack Express.

Mountain Bike Park

A new mountain bike park will be located in the East Peak Basin area. It will be lift-served and utilize the Comet Express and the Big Easy lifts. The park will include a combination of existing summer roads and new single-track type trails. It will be approximately 9-10 miles in total length. New trails will be four feet wide with a one-foot wide shoulder on either side for a total cross-section width of six feet. They will be designed to optimize the experience while minimizing soil erosion and water quality impacts. They will be designed and maintained to the applicable Forest Service bike trail standards. The park operations will include a comprehensive operations and maintenance plan for the trails and roads that includes regular watering for dust control.

The park will be oriented towards lower-level riders including beginners and families. Bike rentals, guided tours and instruction will be offered. Rentals will take place at the top of the gondola area and at East Peak Lodge. Bike park users will be allowed to load their own bikes on the gondola but will not be allowed to ride them within the Tahoe Region except to return to the top of the gondola for downloading or to access the bike park using existing summer

maintenance road segments on Von Schmidt's Trail, Crossover Trail and Steve's Road. Limited tree removal will be necessary in order to create the new trail alignments. No utilities are required except for water from the snowmaking system which will be utilized on a regular basis for dust control.

East Peak Zipline Canopy Tour

A multi-stage guided zipline canopy tour will begin near the top of the Big Easy lift and end with a zip over East Peak Lake near the base of the Dipper Express lift. It will generally traverse the hillside between Von Schmidt's Trail and the East Peak Lodge and Lake. It will be similar in nature to the Mid-Station Zipline Canopy Tour described above, however, it will take advantage of a different landscape type and slope condition to provide a uniquely different experience for users. It will consist of a series of canopy-level ziplines between platforms constructed in and around existing trees. Where a suitable tree is not available along the route to support a landing platform, individual steel or wooden columns may be installed to support the platform. The tour may include short segments of rappels, rope bridges or ground hikes in order to connect the zipline segments and maintain or regain necessary elevations.

The routing plan is one-directional where once the tour is completed participants can either ride the ski lifts back to the top of the gondola area or use the Mountain Excursion tour vehicles described below. Groups of participants will be led by trained guides in a pod-style of guiding.

The physical impacts of this facility will be extremely low. No utilities or other infrastructure are necessary. Selective tree removal for the ziplines, bridges and view corridors will be necessary. Emergency access and egress will utilize existing nearby summer maintenance road segments and the East Peak Lodge hiking trail proposed below.

East Peak Lake Water Activities

Water-oriented activities on and around the existing East Peak reservoir will include kayaking, canoeing, other small boats without engines and fishing.

Interpretive Activities at East Peak Lodge

The existing East Peak Lodge and Deck will be seasonally converted into an interpretive education center. It will continue to provide restrooms, First Aid and food and beverage services. No other physical modifications to the lodge or deck are planned.

East Peak Lodge Hiking Trail

A new segment of hiking trail will be implemented that connects the Top of the Gondola area with East Peak Lodge. It is included in Figure 4-8 of the Heavenly MDP. It will allow visitors the opportunity to hike back and forth between the two activity centers. It will be built to Forest Service trail standards. It is approximately 1.5 miles in length but may be slightly different based on the actual layout.

3. Sky Meadows Basin

The Sky Meadows Basin lies generally south and west of the Gondola and Tamarack Express lift. It lies entirely within the State of California and the TRPA jurisdiction. Activities in Sky Meadows Basin will be accessed from the Tamarack Express lift, on foot or by using the Mountain Excursion tour vehicles (described below). Visitors will return to Adventure Peak using the Mountain Excursion vehicles or on foot.

Sky Meadows Zipline Canopy Tour

A multi-stage guided zipline canopy tour will begin near the top of the Tamarack Express lift and end near the base of Sky Express lift. It will be similar in nature to the Mid-Station Zipline Canopy Tour, however, it will take advantage of a different landscape type and slope condition to provide a uniquely different experience for users. It will consist of a series of canopy-level ziplines between platforms constructed in and around existing trees or using a pre-fabricated steel pole if a suitable tree does not exist in the vicinity.

The routing plan is one-directional where once the tour is completed participants can return to the top of the gondola by riding ski lifts, on foot or using the Mountain Excursion tour vehicles described below. Groups of participants will be led by trained guides in a pod-style of guiding.

The physical impacts of this facility will be extremely low. No utilities or other infrastructure are necessary. Selective tree removal for the zipline alignment and will be necessary. A hiking trail will parallel the alignment in order to allow for inspection and emergency access and egress.

Sky Meadows Ropes Course

A self-guided ropes course consisting of a series of platforms and rope walkways/bridges will be located between Sky Deck and the base of the Sky Express lift. It will incorporate existing mature trees into the layout. Where a suitable tree is not available along the route to support a landing platform, individual steel or wooden columns may be installed to support the platform.

It will contain 4-6 routes of varying degrees of difficulty. The routes are stacked vertically with 2-3 routes per level. It will be designed to accommodate a range of skill levels. Participants will be outfitted with harnesses and are continually secured to an overhead belay line. The course's footprint is approximately 75-100 feet in diameter and approximates the layout of the existing mature trees that will be incorporated into it. The structure will be approximately 30-35 feet in height. No utilities are needed. Limited tree removal and limbing is needed for implementation.

Ridge Run Lookout Tower and Observation Deck

Develop a new observation tower near the existing Ridge Run Overlook. It will resemble a historic Forest Service Fire Lookout Tower and used for scenic views and interpretive education regarding the Forest Service's historic and modern role in managing the forests, including fire. The tower will be approximately 400-500 square feet in area and a maximum of 25-30 feet in height and will offer views of High Meadows and Freel Peak as well as Lake Tahoe. Limited parking for Mountain Excursion Tour vehicles will be developed at the site. The facility will be sited to allow for barrier free access based on terrain and the use of ramping.

Rebuild the existing picnic deck that is located adjacent to the top of the Sky Express lift. A new summer pathway will be constructed from the adjacent maintenance road to the deck. The existing deck is approximately 2,000 square feet in area. It will be rebuilt expanded to a maximum of approximately 3,000 square feet and include a seasonal ramp in order to provide barrier-free access in the summer. The deck will offer scenic views and a place to sit and rest near the top of the mountain.

Visitors will access both facilities either on foot or by the Mountain Excursion Tour vehicles. No utilities are necessary for the observation deck.

Interpretive Activities at Sky Deck

The existing Sky Deck facility will provide a small interpretive education center, restrooms, First Aid and food and beverage facility. The existing facility will be seasonally modified to provide information and exhibits. No other physical modifications to the lodge or deck are necessary.

Mountain Excursion Tour

A Mountain Excursion Tour will connect all three activity centers described above and will offer guided tours to various locations around the upper mountain. It will consist of vehicles (examples shown below) that will make continuous loops to pick up and drop off visitors at each center. They are intended to provide an enjoyable connection between the centers in a vehicle that is appropriate for mountain travel. They will be driven by Heavenly employees who will also serve as interpretive guides.



The vehicles will use existing summer maintenance roads and existing parking areas unless the need for a new parking area is identified. No stops will be made along roadways where identified populations of Tahoe Draba are located. Site-specific maintenance/road improvement needs will be identified and completed prior to public operations at the beginning of each summer season. Ongoing dust control will be provided by a water truck on a regular daily or as-needed basis in order to minimize dust and maintain a high-quality experience for the visitors.

Connecting Hiking Trails Between Activities

Connecting hiking trails between the activities will be developed to facilitate safe and efficient movement by visitors between the activities. The trails will be laid out in the field and constructed consistent with Forest Service trail standards for this type of use. Interpretive opportunities along the trails will be included in specific locations.

Mountain Bike Trail Connectors

Two separate mountain bike connections are planned. They will be free of charge and open to the general public as key connections to the larger network of trails in and around Heavenly and the surrounding public lands.

The first trail connection is intended to connect the East Peak Mountain Bike Park to the Tahoe Rim Trail. It is a short trail segment 2-3 feet wide that will begin near East Peak Lodge and join the existing Rim Trail near the top of the existing Mott Canyon maintenance road. The trail is located outside of the Tahoe Region.

The second trail connection is intended to connect the mountain to Heavenly Village. It will begin near East Peak Lodge and ascend the hillside to crossing underneath Stagecoach Express and North Bowl lifts. From there, it will traverse below the former Tower 7 construction road of the existing Olympic Express Lift and cross underneath the lift line where it will exit the ski area boundary near The Pines ski trail. From there, it will descend the hillside in a narrow cleared trail corridor incorporating one major switchback to the southwest and then intersect with the existing Van Sickle Connector trail in Van Sickle Nevada State Park. The trail will 2-3 feet wide and be designed to incorporate project design features that will help minimize erosion and sedimentation and help to make it self-sustaining. This trail is located primarily within the Tahoe Region and is located entirely on National Forest System lands except for the final segment which is located on Nevada Division of State Park lands.

Emergency Gondola Snow Cat Evacuation Route

In order to safely evacuate the gondola during emergency situations, Heavenly proposes to selectively clear trees at a limited number of strategic access points located from the Gondola Mid-Station down along the gondola line for emergency snow cat access. The access route will only be used in times of operational emergencies and will not be used on a regular basis.

The clearing will be 25-30 feet wide to allow a standard-sized snow cat to travel to the gondola line in key locations. Once there, the snow cat will be able to deliver rescue supplies and personnel and also transport gondola passengers who have been evacuated from individual gondola cabins. Given the existing tree canopy in this area of the gondola line, it is expected that the clearing can be done without impacting long-distance views from key scenic resource viewpoints.

The route will begin to the right of the existing gondola mid-station (looking downhill), and will near Gondola line tower #16 at elevation of approximately 7,800 feet above sea level. The entire route is located on National Forest System lands. Below that elevation a consistently adequate snowpack is generally not reliable. No permanent ground disturbance or development of a new permanent road prism or platform is necessary for the snow cat route.

Land Coverage for Activities Located within the Tahoe Region

For all activities located within the Tahoe Region and subject to the jurisdiction of the TRPA, any land coverage that is needed will be utilized from banked land coverage that TRPA has previously verified as legally removed at Heavenly with the exception of the Town Center bike trail (coverage requirements to be determined). This applies primarily to the activities located at the Top of the Gondola Adventure Peak area and the Sky Meadows Basin.

Design Features and Construction Methods Applicable to All Projects

The following design features and construction methods will be utilized in all projects as appropriate. The measures are taken directly out of or adapted from the Master Plan Construction Erosion Reduction Program (CERP).

Botanical surveys that are consistent with Forest Service protocols will be conducted this summer in order to identify the presence/absence of Tahoe Draba, Arabis Rigidissima and other sensitive plants.

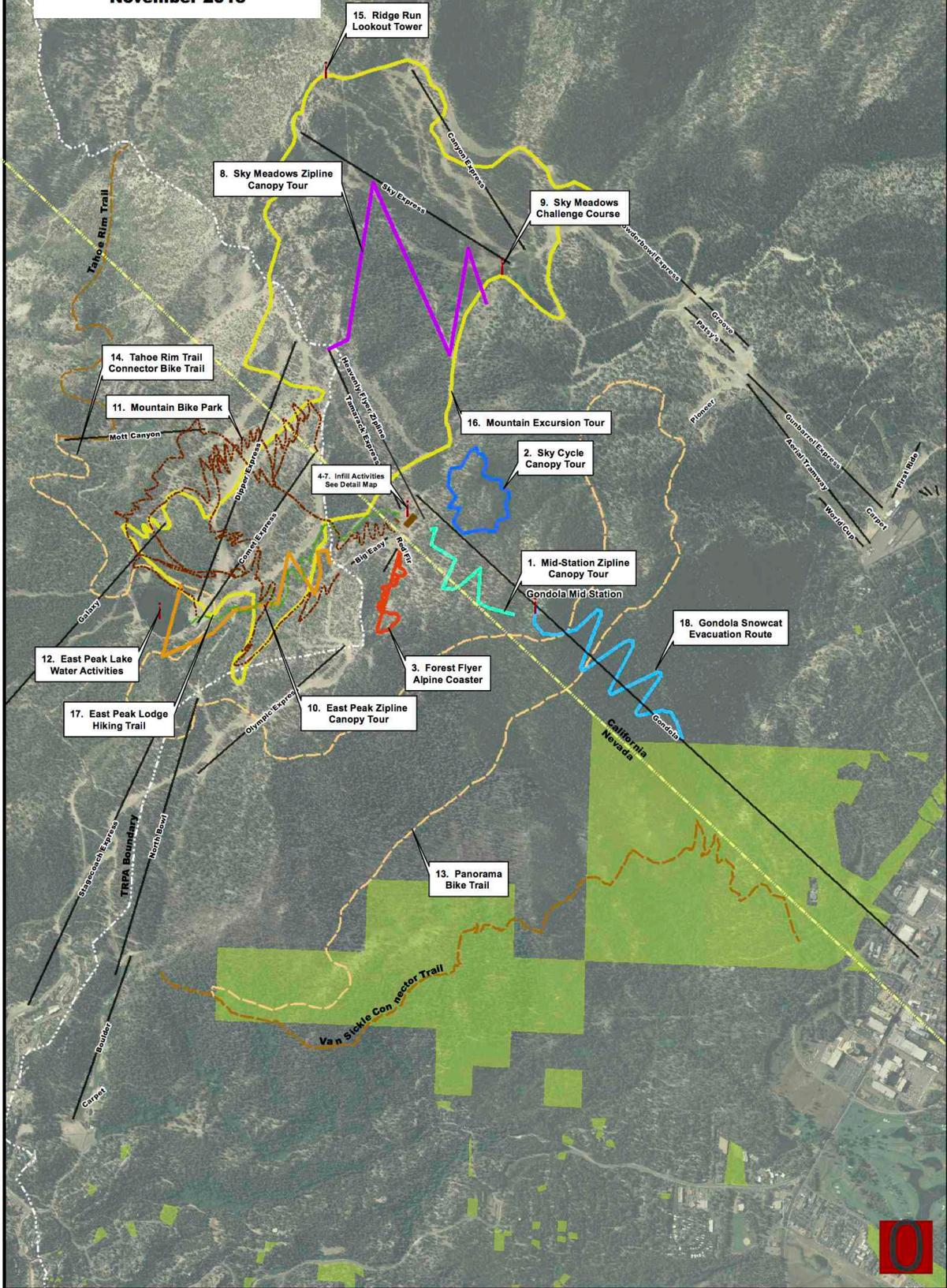
Specific design features include:

- Avoidance of sensitive plants, including Tahoe Draba.
- Site-specific layout of walking paths and hiking trails with Forest Service specialists.
- Implementation of Forest Service-approved temporary and permanent water quality Best Management Practices (BMPs).
- Limited disturbance and construction staging areas.
- Limit tree removal to minimum amount necessary, including white bark pine where present.
- Over-the-snow tree removal and yarding where feasible based on implementation timing and snowpack, over a minimum 12" compacted snow.
- Trees which are removed over the snow will be skidded over a minimum of 12" of compacted snow behind a snow cat to a staging area in order to prevent soil disturbance. Removed trees will be limbed and chipped at the staging area for use for erosion control and soil amendments.
- No penetrations of trees to install for zipline platforms.
- Proper backfilling and compaction of all excavations.
- Separating top soil and duff layers from excavation spoils for later re-use in revegetation where possible.
- Implementing the adaptive management approach for revegetation and erosion control methods contained in the 2007 MDP.
- Incorporation of organic material into soil amendments to promote soil infiltration and plant establishment.
- Specific pre-construction and post-construction monitoring evaluations of disturbed areas and success/re-establishment of revegetation and soil functions.
- Implementation of permanent water quality BMPS following project construction.

- Multi-year, post-construction monitoring and reporting of construction areas as required by the Forest Service BMP Effectiveness Protocol Program.
- Dust control measures, at construction sites and on roads.
- Use of US EPA Tier2/Tier 3 level engines and power units to minimize emissions.

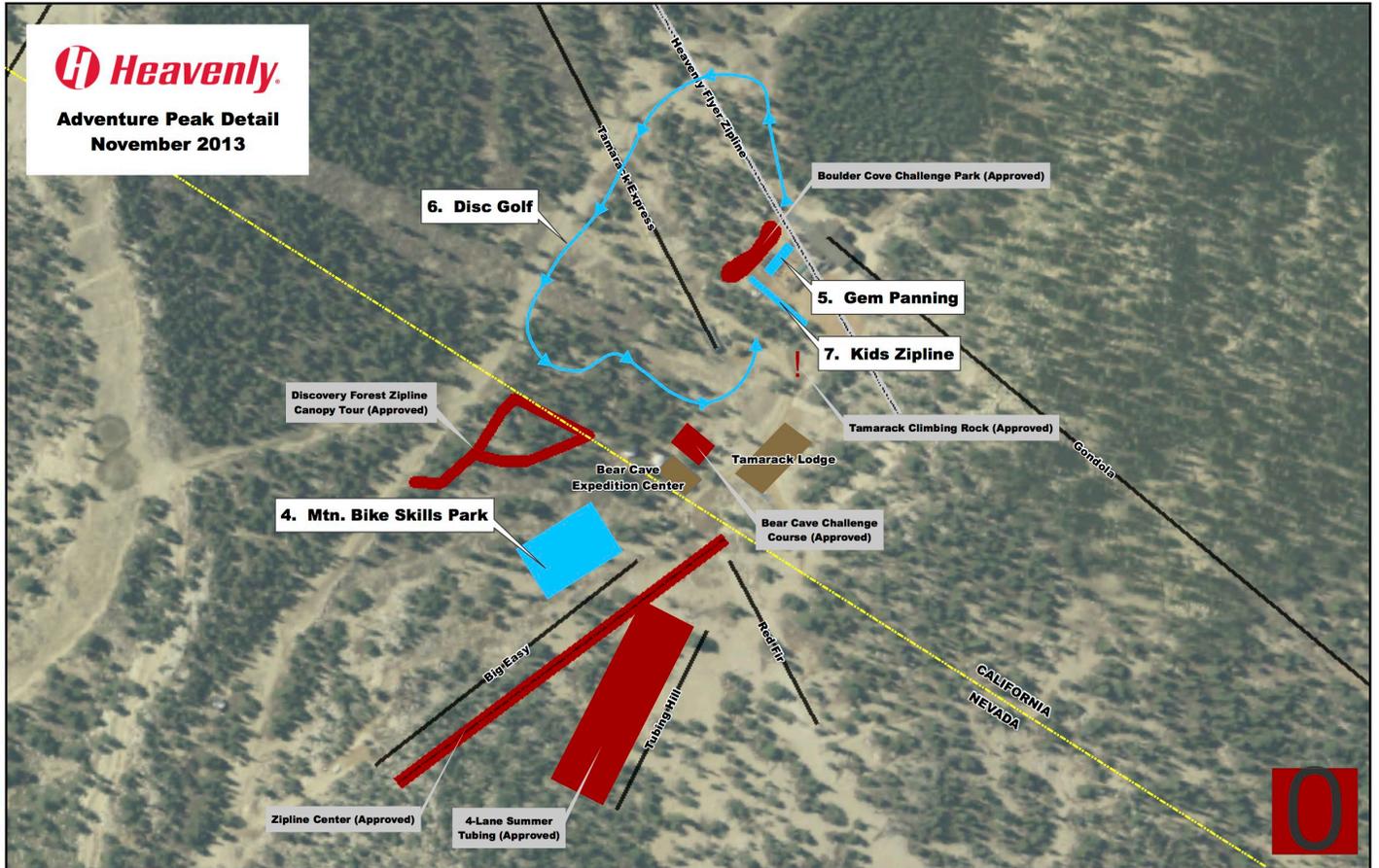


**Proposed Epic
Discovery Activities
November 2013**



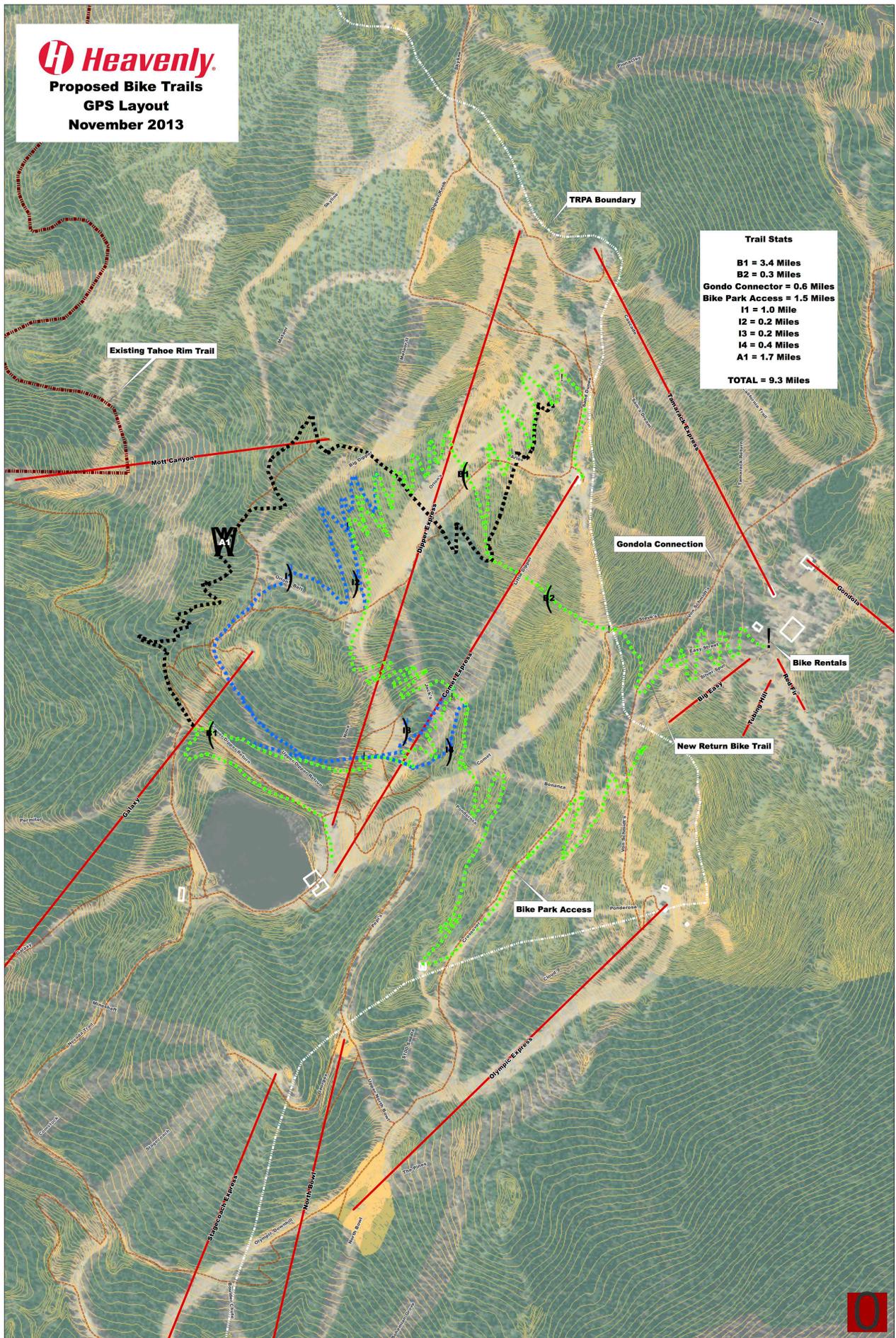


**Adventure Peak Detail
November 2013**





**Proposed Bike Trails
GPS Layout
November 2013**



Trail Stats	
B1	= 3.4 Miles
B2	= 0.3 Miles
Gondola Connector	= 0.6 Miles
Bike Park Access	= 1.5 Miles
I1	= 1.0 Mile
I2	= 0.2 Miles
I3	= 0.2 Miles
I4	= 0.4 Miles
A1	= 1.7 Miles
TOTAL	= 9.3 Miles